U.S. Department of Transportation

Research and Special Programs Administration

400 Seventh Street, S.W.
Washington, D.C. 20590

IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0516/S, REVISION 1

This certifies that the sources described below have demonstrated their ability to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency[1] and the United States of America[2] for the transport of radioactive materials.

1. Source Identification - Isotope Products Laboratories (IPL) source capsules Model Nos. A3224-01, A3224-02, A3224-03, A3224-11, A3224-12, A3224-13, and A3807.

2. Source Description - Each source described by this certificate is a welded, single encapsulation constructed of Type 304 or 304L stainless steel or titanium, with a 0.25 mm (0.010 in) thick integral window at one end. The A3224 source capsules may have outer diameters of 3.0 mm (0.118 in), 4.0 mm (0.157 in), or 7.0 mm (0.275 in), with a length of 10 mm (0.394 in). The A3807 capsule measures 3.0 mm (0.118 in) in diameter by 10.2 mm (0.4 in) long. Source capsules shall be constructed in accordance with one of the attached IPL drawing nos. 3224 or A3807.

3. Radioactive Contents - Each source described by this certificate is authorized to contain any one of the following radionuclides in the chemical form identified and limited to the activity shown.

Radionuclide	Form	Activity
Na-22	NaCl in gold or ceramic	185 MBq (5 mCi)
Co-57	Co metal plated on Ni foil or CoO in ceramic	11,100 MBq (300 mCi)
Co-58	Co metal plated on Ni foil or CoO in ceramic	11,100 MBq (300 mCi)
Co-60	Co metal plated on Ni foil or CoO in ceramic	370 MBq (10 mCi)
Ge-68	GeO_2 in silver	1850 MBq (50 mCi)
Sr-90	$SrTiO_4$ in Ag or SrO_2 in ceramic	4625 MBq (125 mCi)
Ru-106	Ru metal plated on Pt	1850 MBq (50 mCi)
Cs-137	CsCl in gold or Cs in ceramic	11,100 MBq (300 mCi)
Ba-133	$BaSO_4$ in ceramic or $BaCl_2$ in ceramic	3700 MBq (100 mCi)
Lanthanides*	Oxides plated on Pt, in ceramic, or in aluminum	11,100 MBq (300 mCi)
Actinides**	Oxides in ceramic or aluminum	11,100 MBq (300 mCi)

*(Isotopes of Ce, Pr, Sm, Eu, Yb, and Tm only)
**(Isotopes of Ac, Th, Pa, U, Pu, Am, and Cm only)

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[1] "Safety Series No. 6, Regulations for the Safe Transport of Radioactive Material, 1985 Edition (As Amended 1990)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

[2] Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 209 of the IAEA regulations[1] shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.

5. Expiration Date - This certificate expires April 1, 2006.